

HTA of novel biocontainment systems for ambulance transport: public health implications

Anna Odone

M Corradi², A Cattaneo¹, C Plicco², E Bossi³

¹School of Public Health, University of Pavia, Pavia, Italy

²Stem, Technology, Parma, Italy

³Commission for HTA, San Raffaele Hospital, Milan, Italy

Contact: anna.odone@mail.harvard.edu

Background:

Biocontainment systems in healthcare settings are intended to ensure isolation of contagious or potentially contagious patients so as to protect healthcare providers and control infection spread. The need for safe and effective biocontainment systems has emerged during the COVID-19 outbreak. In particular, transport of potentially contagious patients poses technical, logistical and medical challenges that are to be addressed to protect population health and enable safe healthcare services delivery.

Methods:

As novel biocontainment systems become available it is important to assess their operational effectiveness and safety and to define their organizational impact. We applied the

Health Technology Assessment (HTA) framework to evaluate a novel rigid bio-containment system (Billy-Cab) integrated with the stretcher support, for ambulance transport of contagious patients.

Results:

We applied the EUnetHTA core model to conduct an HTA report of Billy-Cab. A multi-disciplinary working group was established. We assessed available biocontainment under the nine dimensions of the EUnetHTA core model. We derived and pooled: 1) original data derived from clinical practice, 2) secondary data derived from systematic reviews of the literature, conducted according to the PRISMA guidelines, 3) original data derived from validated questionnaires, 4) economic original data.

Conclusions:

Preliminary data allow to conclude selected biocontainment systems are effective in ensuring infection control during ambulance transport, with manageable organizational impact. In addition, the use biocontainment systems positively influence healthcare professionals' attitudes and performances. The HTA methodology offers substantial support to evaluate the introduction of innovative technologies during health emergencies and beyond.

Key messages:

- Selected biocontainment systems are effective in ensuring infection control during ambulance transport.
- HTA is to be applied to evaluate the introduction of innovative technologies during health emergencies and beyond.